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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,165	03/16/2004	Andre Fournier	0615-122P	4135
22831	7590	06/03/2005	EXAMINER	
SCHWEITZER CORNMAN GROSS & BONDELL LLP			MAGEE, THOMAS J	
292 MADISON AVENUE - 19th FLOOR			ART UNIT	
NEW YORK, NY 10017			PAPER NUMBER	
			2811	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,165

Applicant(s)

FOURNIER ET AL.

Examiner

Thomas J. Magee

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03162004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections – 35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 5, 7 – 10, 12 – 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roland et al. (US 4,670,723) in view of Dufour (US 4,711,835) and Faris. (US 6,875,671 B2).

3. Regarding Claim 1, Roland et al. disclose a microwave device comprising:

an insulating substrate (36) (Figure 1) (Col. 2, lines 59 – 60),

at least one conductive strip of a microwave transmission line (40) (Col. 3, line 9) on a face of a substrate,

at least one ground zone (50) (Col. 3, line 28), and

at least one resistive layer (44) (col. 3, line 33) placed on said face of the substrate, the resistive layer having at least a first region to which the conductive strip is connected (at 104) and a second region connected to the ground zone (at 102) the resistive layer presenting a longitudinal axis.

Roland et al. do not disclose the presence of a ground plane covering in part the resistive layer

Art Unit: 2811

and connected to the ground zone and insulated from the resistive layer by an insulating layer. Faris discloses the presence of a metal layer (Col. 30, lines 35 – 37) (shielding layer) (Figure 65) atop an insulator and an underlying conductor, wherein the metal layer serves as a ground plane (Col. 30, lines 49 – 51) It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Faris with Roland et al. to provide a device with reduced RF coupling.

Further, Roland et al. do not disclose that the conductive material is silkscreen printed on an Insulating layer. However, Dufour discloses that a conductive layer (8) (Figure 5) (Col. 2, lines 19 – 23) is formed on an insulating substrate (Col. 2, line 5) using the silkscreen printing process. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the silkscreening process to obtain an efficient and reliable means for obtaining uniform electrical conductivity (Dufour, Col. 8, lines 10 – 16) and thus to combine Roland et al. with Dufour.

4. Regarding Claim 2, Roland et al. disclose that the first region of the resistive layer presents a shape that converges towards the conductive strip (near 104).

5. Regarding Claim 3, Roland et al. disclose that the first region (at 104) presents a substantially ("approximately") trapezoidal in shape, the conductive strip being connected to the resistive layer via the minor base of the trapezoid.

Art Unit: 2811

6. Regarding Claim 4, Roland et al. disclose that the resistive layer (44) is substantially ("approximately") trapezoidal in shape, the ground zone (50) being connected to said resistive layer via the major base of the trapezoid.

7. Regarding Claim 5, Roland et al. disclose that the second region (near 102) is substantially ("approximately") rectangular and the ground zone (50) connects to said region via one side of the rectangle.

8. Regarding Claims 7 – 10, as discussed in Claim 1, Roland et al. do not disclose the presence of a ground plane covering the entire width of the resistive layer and the first and second regions completely, wherein the ground plane comes into contact with the ground zone behind the resistive layer. As mentioned above, Faris discloses a conductive layer on an insulator. It would have been obvious to form a conductive ground plane using Faris wherein the plane covers the resistive layer, set back from the junction with the conductive strip and making contact with the ground zone in Roland et al. to provide a plane overlayer to reduce coupling into the device.

9. Regarding Claim 12, Roland et al. disclose a device, wherein the ground plane discussed in the claim above is connected to lateral ground zones (50,52) extending along the edge faces of the substrate.

10. Regarding Claim 13, Roland et al. disclose that the first region presents a dimension (106) extending transversely to the longitudinal axis of the resistive layer that is less than that (102)

of the second region.

11. Regarding Claim 14, Roland et al. disclose a device wherein the device forms an attenuator (Col. 1, lines 47 – 51).

12. Regarding Claim 22, Roland et al. disclose a method for manufacturing a microwave device for dissipating and attenuating power, the device comprising:

an insulating substrate (36) (Figure 1) (Col. 2, lines 59 – 60),

at least one conductive strip of a microwave transmission line (40) (Col. 3, line 9) on a face of a substrate,

at least one ground zone (50) (Col. 3, line 28), and

at least one resistive layer (44) (col. 3, line 33) placed on said face of the substrate, the resistive layer having at least a first region to which the conductive strip is connected (at 104) and a second region connected to the ground zone (at 102) the resistive layer presenting a longitudinal axis.

Roland et al. do not disclose the presence of a ground plane covering in part the resistive layer and connected to the ground zone and insulated from the resistive layer by an insulating layer.

Faris discloses the presence of a metal layer (Col. 30, lines 35 – 37) (shielding layer) (Figure 65) atop an insulator and an underlying conductor, wherein the metal layer serves as a ground plane (Col. 30, lines 49 – 51) It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Faris with Roland et al. to provide a device with reduced RF coupling.

Further, Roland et al. do not disclose that the conductive material is silkscreen printed on an Insulating layer. However, Dufour discloses that a conductive layer (8) (Figure 5) (Col. 2, lines 19 – 23) is formed on an insulating substrate Col. 2, line 5) using the silkscreen printing process. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the silkscreening process to obtain an efficient and reliable means for obtaining uniform electrical conductivity (Dufour, Col. 8, lines 10 – 16) and thus to combine Roland et al. with Dufour.

13. Claims 15 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roland et al. in view of Hastings et al. (US 5,822,196) and Faris .

14. Regarding Claim 15, Roland et al. disclose a microwave device for at least one of dissipating and attenuating power, comprising:

an insulating substrate (36) (Figure 1) (Col. 2, lines 59 – 60),

at least one conductive strip of a microwave transmission line (40) (Col. 3, line 9) on a face of a substrate,

at least one ground zone (50) (Col. 3, line 28), and

at least one resistive layer (44) (col. 3, line 33) placed on said face of the substrate, the resistive layer having at least a first region to which the conductive strip is connected (at 104) and a second region connected to the ground zone (at 102) the resistive layer presenting a

Art Unit: 2811

longitudinal axis, in which device:

Roland et al. do not disclose the presence of a ground plane covering in part the resistive layer and connected to the ground zone and insulated from the resistive layer by an insulating layer. Faris discloses the presence of a metal layer (Col. 30, lines 35 – 37) (shielding layer) (Figure 65) atop an insulator and an underlying conductor, wherein the metal layer serves as a ground plane (Col. 30, lines 49 – 51) It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Faris with Roland et al. to provide a device with reduced RF coupling.

Further, Roland et al. do not disclose the presence of an insert comprising a conductive wall pressed against the insulating layer and defining a ground plane, wherein the insert is arranged to hold the substrate on the bottom of a package in which the device is housed. Hastings et al. disclose tab or insert holders (Figures 7B and 7C) that are used to secure an electronic device. It would have obvious to one of ordinary skill in the art at the time of the invention to use the inserts of Hastings et al. at the edge of the ground plane/insulating layer region in Roland et al. to secure the substrate within a package at the bottom where it is housed.

15. Regarding Claims 16 – 18, as discussed above, Roland et al. do not disclose the presence of an insert that is capable of being pressed against the wall of a package or fastened or soldered to a support. Hastings et al. disclose (Figures 7B and 7C) a deformable (bendable) metal insert that can be pressed against a surface or fastened or soldered to a support structure. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the

Art Unit: 2811

insert of Hastings et al. to provide a means of securing the device in the package and hence to combine Roland et al. with Hastings et al.

16. Regarding Claim 19, Roland et al. disclose that the first region presents a dimension (106) extending transversely to the longitudinal axis of the resistive layer that is less than that (102) of the second region.

17. Claim 21 is rejected under 35 U.S.C.103(a) as being unpatentable over Roland et al. in view of Faris.

18. Regarding Claim 21, Roland et al. disclose a microwave device for attenuating power and forming an attenuator, the device comprising:

an insulating substrate (36) (Figure 1) (Col. 2, lines 59 – 60),

at least one conductive strip of a microwave transmission line (40) (Col. 3, line 9) on a face of a substrate,

at least one ground zone (50) (Col. 3, line 28), and

at least one resistive layer (44) (col. 3, line 33) placed on said face of the substrate, the resistive layer having at least a first region to which the conductive strip is connected (at 104) and a second region connected to the ground zone (at 102) the resistive layer presenting a longitudinal axis.

Roland et al. do not disclose the presence of a ground plane covering in part the resistive layer

Art Unit: 2811

and connected to the ground zone and insulated from the resistive layer by an insulating layer. Faris discloses the presence of a metal layer (Col. 30, lines 35 – 37) (shielding layer) (Figure 65) atop an insulator and an underlying conductor, wherein the metal layer serves as a ground plane (Col. 30, lines 49 – 51) It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Faris with Roland et al. to provide a device with reduced RF coupling.

Claim Rejections – 35 U.S.C. 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Roland et al.

21. Regarding Claim 20, Roland et al. disclose a microwave device for attenuating power and forming an attenuator, the device comprising:

an insulating substrate (36) (Figure 1) (Col. 2, lines 59 – 60),

at least one conductive strip of a microwave transmission line (40) (Col. 3, line 9) on a face of a substrate,

at least one ground zone (50) (Col. 3, line 28), and

at least one resistive layer (44) (col. 3, line 33) placed on said face of the substrate, the

resistive layer having at least a first region to which the conductive strip is connected (at 104) and a second region connected to the ground zone (at 102) the resistive layer presenting a longitudinal axis wherein:

the first region presents a dimension (106) extending transversely to the longitudinal axis of the resistive layer that is less than that (102) of the second region.

Claim Objections

22. Claims 6 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record do not reasonably teach or suggest, either singularly or in combination, the limitation in Claim 6 of an attenuator device, *"wherein the device comprises two conductive strips and wherein the resistive layer comprises two trapezoidal first regions each connected to a conductive strip."* Similarly, in Claim 11, the prior art of record do not reasonably teach or suggest, either singularly or in combination, the limitation of an attenuator device, *"wherein the substrate carries two lateral conductive tracks on either side of the resistive layer, and connected to said ground zone, the ground plane covering said tracks."*

Conclusions

23. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Thomas Magee**, whose telephone number is **(571) 272 1658**. The Examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM (EST). If

Art Unit: 2811

attempts to reach the Examiner by telephone are unsuccessful, the examiner's supervisor, **Eddie Lee**, can be reached on **(571) 272-1732**. The fax number for the organization where this application or proceeding is assigned is **(703) 872-9306**.

Thomas Magee

May 5, 2005

A handwritten signature in black ink, appearing to read 'Eddie Lee', is positioned above the printed name and title.

EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800